



Workplan

DUST SAMPLING AND ANALYSIS PLAN FOR THE FORMER SATRALLOY SITE JEFFERSON COUNTY, OHIO

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1.0 INTRODUCTION

This document is the sampling and analysis plan for dust placed in the Dust Staging Area as described in the Interim Action Workplan (Golder 2012) at the Former Satralloy Site located in Cross Creek Township, Jefferson County, Ohio (the Site).

1.1 Background

The south and north mill buildings and their respective baghouses are currently being cleaned to remove dust, and the resultant dust is being placed into one and ten cubic yard (CY) bags and stored. Once the dust bags are placed in storage, access for sampling will be difficult. It is therefore proposed that samples will be collected from representative bags as they accumulate, so that the dust bags may be stored in an efficient manner. Composite samples will then be collected from the dust samples to represent the areas to be characterized.

Table 1 gives the approximate areas for specified areas in the mill buildings and baghouse areas, and the estimated dust volumes for areas where dust has been removed (as of February 19) are shown in Table 1. Dust removal is ongoing. The North Mill Building has an estimated two to three times the volume of dust as the South Mill Building.

1.2 Scope and Objectives

The scope of this sampling and analysis plan covers the dust to be placed in the Dust Staging Area at the Site. The objective for dust sampling is to provide data to be used in the Remedial Investigation and Feasibility Study (RI/FS) to determine appropriate disposition of the dust as part of the Site remedy.

**Table 1. Dust Removal Areas and Volumes**

Dust Removal Area	Estimated Area (square feet)	Estimated Dust Volume (CY)
SOUTH MILL BUILDING		
Ground floor furnace foundation area	20,000	
Ground floor casting bay area	21,000	
Ground floor ramp and finishing bay area	19,000	
First floor A area (south third of floor)	6,500	31
First floor B area (center third of floor)	6,500	31
First floor C area (north third of floor)	6,500	18
Second floor A area (south third of floor)	6,500	24
Second floor B area (center third of floor)	6,500	48
Second floor C area (north third of floor)	6,500	27
Third floor A/mezzanine/rafters/crane	1,500	10
Third floor B/mezzanine/rafters/crane	2,500	7
Third floor A/mezzanine/rafters/crane	4,000	25
Outside silos ground area	4,800	
Baghouse #3 structure	2,800	80
Baghouse #3 (dust on ground underneath structure)	3,100	
SOUTH MILL BUILDING TOTALS	117,700	301
NORTH MILL BUILDING		
Ground floor furnace foundation area	30,000	
Ground floor casting bay area	40,000	
Ground floor ramp and finishing bay work area	40,000	
First floor A area (south half of floor)	15,000	
First Floor B area (north half of floor)	15,000	
Second floor A area (south half of floor)	15,000	
Second Floor B area (north half of floor)	15,000	
Third floor A area (south half of floor)	15,000	
Third Floor B area (north half of floor)	15,000	
Mezzanine area/ rafter	5,000	
Conveyor room	1,000	
Outside silos ground area	5,500	
Baghouse #2 structure	3,000	
Baghouse #2 (dust on ground underneath structure)	3,300	
Baghouse #1 Structure	2,800	
Baghouse #1 (Dust on ground underneath structure)	3,000	
NORTH MILL BUILDING TOTALS	223,600	

Note: Dust volumes incomplete because dust removal is ongoing. Volumes as of February 20, 2014.



2.0 SAMPLING

A series of dust samples will be collected in a systematic manner from the dust bags as they accumulate during the dust removal. Composite samples will be prepared in a tiered manner by grabbing increments from the dust samples and combining them into composite samples that represent the specified areas to be sampled. The areas of each tier are shown in Table 2.

Environmental conditions could have affected the dust, possibly causing some variability in metals concentrations or leaching potential. These environmental conditions may include exposure to weather (i.e., dust in the baghouse areas), or exposure to surface soil (i.e., dust on the ground floors). Therefore, the dust has been placed into 3 categories: dust on the ground floor, dust on other floors, and baghouse dust.

In order to effectively characterize the dust removed and identify variabilities in the dust, it will be necessary to consider: a) the volume of dust removed per area, and b) relatively uniform coverage per area. Upon completion of the dust removal activities, the volumes of dust collected from each area will be known, and any other observations as to variability or uniformity of the materials removed can be evaluated.

2.1 Grab Samples

Grab samples will be collected in each Tier 2 area (see Table 2) at a rate of one sample per every 10 bags (each bag representing one CY) in the South Mill Building and associated baghouse, and one sample per every 20 bags in the North Mill Building and associated baghouses (the North Mill Building has an estimated two to three times the volume of dust as the South Mill Building). At least one sample will be collected from each Tier 2 area. A 10 CY bag will be treated as 5 one CY bags (they are not completely filled). Dust samples from each specified bag will be collected into a 12-ounce glass jar, labeled to identify the bag sampled, and stored at the Site under chain-of-custody. This approach will result in approximately the same number of samples per building and respective baghouses or approximately 30 samples per building.

**Table 2. Tier 1 and 2 Areas for Composite Samples**

Tier 1 Areas	Tier 2 Areas
South Mill Building Ground Floor	
	Ground floor furnace foundation area
	Ground floor casting bay area
	Ground floor ramp and finishing bay area
South Mill Building Other Floors	
	First floor A area (south third of floor)
	First floor B area (center third of floor)
	First floor C area (north third of floor)
	Second floor A area (south third of floor)
	Second floor B area (center third of floor)
	Second floor C area (north third of floor)
	Third floor A/mezzanine/rafters/crane
	Third floor B/mezzanine/rafters/crane
	Third floor A/mezzanine/rafters/crane
South Mill Building Baghouse Area	
	Outside silos ground area
	Baghouse No.3 structure
	Baghouse No.3 (dust on ground underneath structure)
North Mill Building Ground Floor	
	Ground floor furnace foundation area
	Ground floor casting bay area
	Ground floor ramp and finishing bay work area
North Mill Building Other Floors	
	First floor A area (south half of floor)
	First Floor B area (north half of floor)
	Second floor A area (south half of floor)
	Second Floor B area (north half of floor)
	Third floor A area (south half of floor)
	Mezzanine area/ rafter
	Conveyor room
	Outside silos ground area
North Mill Building Baghouse Area	
	Baghouse No.2 structure
	Baghouse No.2 (dust on ground underneath structure)
	Baghouse No.1 Structure
	Baghouse No.1 (Dust on ground underneath structure)



2.2 Composite Samples

Composite samples will be collected from the dust samples at the completion of the dust removal activity in a tiered approach.

Tier 1 area samples will be assembled by taking a gram of material from each grab sample collected for that area. For example, the Tier 1 Ground Floor South Mill Building sample will be a composite of each dust sample collected from the three associated Tier 2 regions (ground floor furnace foundation area, the ground floor casting bay area, and the ground floor ramp and finishing bay area).

The composite samples will be analyzed as specified in Section 3. After reviewing the results, additional composite samples representing Tier 2 areas may be prepared and analyzed.

2.3 Quality Control Samples

For quality control purposes, duplicate samples will be collected at a rate of 10% of all grab samples collected.



3.0 ANALYSIS

The samples will be shipped under chain-of-custody to a qualified laboratory for the analyses listed in Table 3.

Table 3. Analytical Methods and Requirements

Analysis	Method	Hold Time	Sample Size for Analysis
TAL metals	SW-846 6010B	180 days	10 gm
Hexavalent Cr	EPA 7196A/ EPA 7199A	28 days	10 gm
SPLP Cr	EPA 1312	180 days	100 gm
Paste pH	EPA 150	NA	25 gm
Particle size distribution	ASTM D6913	NA	100 gm
Mineralogy by XRD	EPA 6300	NA	< 1 gm

Dust analytical parameters are consistent with those for slag samples in the RI (see Table 6-1 in Golder 2013).



4.0 REFERENCES

Golder Associates Inc. (Golder). 2012. Interim Action Workplan. Former Satralloy Site, Jefferson County, Ohio. November 15.

Golder. 2013. Preliminary Evaluation Report and Remedial Investigation/Feasibility Study Workplan. Former Satralloy Site, Jefferson County, Ohio. May 8.

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